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DIXIE NATIONAL FOREST

SAFETY REPORT

Thompson

United States Department of Agriculture | Forest Service | Dixie N.F.

Reply to: 6700

Date: May 16, 1988

Subject: Dixie Safety and Health Committee Final Report

To: Staff and District Rangers

Enclosed is a copy of the final report of our Health and Safety Committee. This committee has produced an excellent report and I urge you to study it carefully. The committee's charge was to evaluate our current safety and health programs in light of the observations contained in the Regional Delta Team Safety Report of April 20, 1987. It was also charged with proposing changes in our current programs which would implement the recommendations given in that report. The Delta Team report emphasized the need to depart from an accident-oriented, reactive safety program to one which is behavior oriented and utilizes positive, motivational measures to achieve safety and health goals.

The Committee has detailed several areas where our program could be revised or expanded. Some of their suggestions represent a significant departure from our traditional way of "doing business" and challenge us to be innovators. I believe that these recommendations have merit and deserve further serious study. I will soon be appointing members to new committees addressing individual areas of attention identified in this report. These committees will investigate specific measures and programs needed to implement the proposed changes. Please review the enclosed document with your key safety personnel and be prepared to present your ideas and "innovations" when called on by these future committees.

Hugh C. Thompson

HUGH C. THOMPSON
Forest Supervisor

Enclosure

cc:
Regional Forester
Regional Safety Officer

DIXIE NATIONAL FOREST
SAFETY AND HEALTH REPORT

APRIL 27, 1988

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INTRODUCTION

The Forest Service Intermountain Region Delta Safety Team was established to evaluate the traditional programs and emphases for safety management in the Region and to recommend changes which would result in improved employee commitment to safety. This team released its final report (Delta Safety Report) on April 20, 1987. Their report documents what has been an inappropriate focus on counting accidents and injuries and other "results" oriented factors in dealing with safety management. The report stresses the need to change from this negative approach to one which puts emphasis on influencing safety behavior and attitudes as a means of preventing accidents. Under this philosophy, unsafe acts and conditions are viewed as symptoms, not causes, of accidents. The Delta Safety Team presents the following "key fundamentals to attaining excellence in safety":

1. Employee involvement and responsibility are the foundation of commitment to a health and safety program, and

2. Effective organization and management support are needed to foster and reward positive attitudes, behavior, and motivation for the health and welfare of the individuals.

Application of these fundamentals in improved Forest Service safety and health programs became the goal of their efforts. The recommendations of the team for achieving these goals are:

A. Develop safety and health programs which involve employees and integrate health and safety back into the work program.

B. Redesign the safety and health organization and reporting system to effectively contribute to the accomplishment of our safety and health goal.

C. Performance ratings for managers and employees should be based on attitudes, behavior, and meaningful programs that lead to safe acts and conditions.

D. Provide opportunity for employee participation in fitness and wellness programs.

E. Incorporate visitor safety awareness and responsibility as an integral element of Region Four's host program.

F. Implement a training program that orients all Region 4 employees to the new concepts of human behavior, attitudes, and motivation in safety and health.

The Dixie Safety and Health Committee was assembled in August 1987 to investigate specific measures by which the Delta Safety Team recommendations could be implemented on the Forest. This team recognized that many of the "negative" aspects identified by the Delta Safety Team had been incorporated into the traditional safety program here on the Dixie. The Forest team solicited comments and ideas from within the Forest and from other organizations on measures needed to get away from an "accident counting" orientation to one which emphasized positive actions and widespread employee participation. Many interesting and applicable ideas for change surfaced which the team discussed and evaluated. Many of these are presented in the body of this report.

OVERVIEW AND SUMMARY

Providing for a positively oriented motivational program for safety and health awareness and commitment is not just a "pie-in-the-sky" proposal. There are a host of specific measures which can be adopted as integral components of a Forest safety and health program through which management can stimulate positive attitudes and grass roots participation and commitment to achieve the desired results. However, the final results would not be the driving mechanism of the program. **The basic elements of such a program, which comprise the recommendations of the committee are as follows.**

1. The adopted program should have a written plan with clearly defined specific elements. It should be a comprehensive program conducted on a Forestwide basis.

2. The adopted program should have coordinated program development and management at the Supervisor's Office under the immediate direction of a Staff member.

3. The adopted program needs a defined budget.

4. The adopted program should include mechanisms to ensure implementation on the Districts and field units. Safety performance ratings can be an effective method for ensuring implementation if standards of performance are tailored to the type of work an employee performs. For example, different standards should be adopted for first line supervisors or for program managers than for other employees.

5. The adopted program should have predefined mechanisms to evaluate overall program performance. This may require the establishment of a safety and health accounting system and the use of survey techniques to evaluate changes in attitudes and behavior.

6. The adopted program should incorporate specific measures to promote employee participation and stimulate awareness of safety and health concerns particularly among field going seasonal employees. Such measures should include a) a Forestwide incentive program, b) a rotating Safety and Health Committee to assist the program manager, c) an emphasis on near-miss reporting and analysis, d) provision of safety training programs for all employees, and e) a mechanism to foster and promote the submittal of employee suggestions on improving safety for both employees and the visiting public and other forms of employee feedback.

7. The adopted program should provide training and other means to improve the effectiveness of supervisors in safety communication, safety behavior modification and safety training activities.

Specific ideas to implement these recommendations are contained in the following sections.

ADMINISTRATIVE STRUCTURE

Administrative structure can have a significant effect on the implementation of any safety and health program. Structure must be tailored to the specific needs of the organization and in many cases can develop over time to meet new requirements as they become known. There are likely to be a number of ways to effectively administer a program to accomplish program goals. One important spectrum to consider is the degree of centralization desired for administrative purposes. De-centralization promotes individual initiative and can result in greater variation of approach in solving problems specific to a particular district or unit. This is viewed as a positive attribute by the Health and Safety Committee. On the other hand, a program with centralized planning and budgeting lends itself to better program control and coordination. If implementation of Forest-wide measures or activities (such as an incentive program) are components of the total safety program, a high degree of control will be required at the Supervisor's Office. If emphasis is on District-wide programs, the Supervisor's Office program management involvement can be limited to coordination and information transfer. In this case, centralized administrative structure may not be critical.

The recommendations of the Dixie Health and Safety Committee include elements which are Forestwide in nature. In view of these recommendations, **the Committee feels that more emphasis on centralized administration in the Supervisor's Office would be appropriate in the future.**

The Committee also felt that centralized funding would be an important aspect of the recommended safety and health program. Under the current situation, it is difficult to track costs and expenditures or to evaluate the program performance from an economic point of view. A dispersed funding arrangement can also preclude an effective Forestwide incentive program. **The Committee recommends that a defined budget allocation be developed for the health and safety program or at least for those portions of the program demanding centralized administration.** A formula-controlled assessment of all program budgets similar to that for GA funding could be an appropriate mechanism to equitably fund Forestwide activities or structures. Information is presented elsewhere in this report on previous costs and expenditures relating to the existing safety program. This information could be used in setting a desired level of program spending and in assessing the need or affordability of future health and safety measures.

The following administrative alternatives were evaluated by the Dixie Safety and Health Committee. The Committee realizes that this is not an exhaustive list nor are the alternatives mutually exclusive.

Alternative A. Full Time Safety and Health Officer (perhaps zone position with another Forest) under Forest Supervisor or Staff Officer

Advantages - Allows for acquisition of professional expertise in safety management. Fosters active, comprehensive program with clearly defined program responsibility.

Disadvantages - Very high administrative costs. Less money available for implementing program elements.

Alternative B. Existing Staff Member Assumes Program Management Responsibilities

Advantages - Fits well into existing Forest program management structure. Provides for well defined program responsibility. Allows for better centralized administrative control at little additional cost.

Disadvantages - Does not foster widespread participation in program planning. Can be relegated to secondary role if not sufficiently emphasized by management.

Alternative C. Existing Staff Members Assume Program Responsibility on Rotating Basis

Advantages - Fosters wider involvement in safety and health planning. Fits well into existing Forest administrative structure at low cost.

Disadvantages - Diffuses program administration accountability and expertise. Can be relegated to secondary role if not sufficiently emphasized by management.

Alternative D. Safety and Health Committee under Forest Supervisor or SO Staff Member with Broad Representation and Rotating Membership.

Advantages - Fosters widespread involvement and commitment to safety and health programs. Provides sufficient manpower and experience to assure that Forestwide programs are implemented smoothly. Provides for liaison on safety matters between Districts and S.O.

Disadvantages - Diffuses program administration accountability and expertise. Can be difficult to arrive at consensus for effective decision making.

Alternative E. Safety Consultant or Consulting Firm.

Advantages - Allows for acquisition of professional expertise in safety and health matters.

Disadvantages - Very high administrative costs. Less money available for implementing program elements. Does not foster widespread involvement or sense of "ownership" in safety program.

The Dixie Safety and Health Committee recommends the adoption of both Alternatives B and D. This would provide for a low cost effective administrative structure as well as allow for a wide level of involvement of personnel in safety planning functions. The rotating committee would play both an advisory and staff assistance role to the Safety and Health Staff Officer. Broad representation on the committee would tend to foster a sense of "ownership" among the rank and file and facilitate the acceptance of decisions regarding incentive or award distributions.

Administrative Functions

The Dixie Safety and Health Committee envisions the following functions as possible responsibilities of the recommended administrative unit:

1. Program planning and budgeting functions

2. Safety and health accounting functions

   a. tracking costs and expenditures
   b. managing incentive accounts
   c. maintaining accident report files

3. Safety and preparedness training functions

   a. obtaining training programs or aids for courses in safety, safety management and safety behavior for supervisors
   b. assist districts in safety training coordination for seasonals
   c. assist districts in preparedness training coordination (First Aid, CPR, EMT)

4. Incentives and awards program functions

   a. manage accounting and disbursement of Forest-wide safety cost savings or safety point incentive program
   b. administer Forest-wide safety manager awards
   c. coordinate District safety award levels

5. Performance Evaluation functions

   a. provide safety program manager ratings recommendations to Forest Supervisor
   b. provide guidelines for safety ratings for other employees

6. Accident Investigation, near miss analyses, safety studies functions

   a. compile and analyze information on accidents and near misses
   b. prepare annual reports and safety plan updates

7. Safety inspection functions

   a. coordinate safety and facilities inspections
   b. make recommendations to correct hazardous situations

8. Health program functions

   a. coordinate health/nutrition/exercise evaluations for employees
   b. coordinate expenditures for fitness programs and seminars or counseling

9. Preparedness Program

   a. provide guidance on signing/safety information activities for field units
   b. provide information and guidance on purchase of First Aid equipment and supplies

10. Program evaluation function

   a. monitor costs, savings, accidents, lost time and other measures of program accomplishment
   b. conduct employee surveys and questionnaires to measure safety attitudes
   c. make recommendations to Forest Supervisor on needed changes in program direction

Recommendations

In summary, the Dixie Safety and Health Committee recommends a centralized program administration with a defined budget allocation under the direction of a Forest Staff Officer in the Supervisor's Office. A rotating committee comprising a broad cross-section of Forest employees should be assigned to advise and assist the Staff Officer in managing the program.

PARTICIPATION SECTION

This chapter deals with strategies for employee participation. The topic of participation has been explored extensively in the literature and it has been shown that participation has some very broad powers which are capable of influencing human behavior. Most of the literature addresses the relationship between participation and job satisfaction. There are sources which demonstrate that participation affects level of awareness, productivity, learning, changing habits and attitudes and upon eliciting cooperation. As an example consider the introduction of change in the workplace. When introduced unilaterally it is often viewed with suspicion and resistance. The worker may tend to believe that change is carried out for his employer's greater benefit and only incidentally for his or her own. But, when participation is invited or solicited prior to a decision, this act paves the way for a smoother transition from one practice to another.

Perhaps the most important aspect of participation as it relates to the assignment of this safety committee occurs in the area of commitment to an organization's goal. Simply stated. . .an employee's commitment is proportionate to his or her involvement and responsibility in a program (Delta Safety Team Report, April 20, 1987). This means that participation stimulates ownership in a particular goal and generally meets with greater opportunities for success and achievement with regards to the organization's needs.

Before summarizing the mechanisms of employee participation, it is important to define the meaning of participation. This is done to assure that everyone and most importantly the reader views the topic from a common frame of reference. Simply put, participation is a process in which two or more parties influence each other in making plans, policies and decisions. It is the act of getting people involved and using their input in the design and operation of a system or program.

Six alternatives designed to stimulate workforce participation in the Forest's Safety Program have been identified by this safety Committee. There appears to be no institutional constraints that would limit the use of any of these options. Therefore, none of these are "flagged" and it seems that it is within Management's discretion to use any of these approaches as they deem appropriate.

The chart which follows summarizes the thinking of the committee.

EMPLOYEE PARTICIPATION MECHANISMS

	PRACTICE	DEFINITION	NATURE OF PARTICIPATION *
1.	Rotating Committee Assignment	The practice of assigning, i.e., detailing an employee to a given task with a specified purpose. May take various forms ranging from "fleshing out" a particular safety problem to preparation of a unit safety plan.	Participation by representation.
2.	Survey	A prepared questionnaire circulated throughout an organization for the purpose of collecting safety information. Information that is useful is the modification of safety plans would be gathered and tabulated. It would also be used to evaluate the safety program.	Partial to Total Participation. (Depending on response rates.)
3.	Training	The practice of building skills, increasing knowledge or sharpening abilities based on needs analysis. Carried out with a specific purpose in mind and predetermined methodology.	Selected Participation.
4.	Management by Wandering Around (MWA)	The practice of a manager inspecting or visiting work stations at regular intervals, making safety observations, and collecting safety information by means of sensing employees. Input is used to adjust safety plan.	Selected Participation. (Quality and Quantity of information depends on the number of contacts manager's application.
5.	Near Miss Analysis and Hazard Identification.	Safety input is collected from members of the Forest's workforce either through survey or other means. Information concerns unsafe conditions, circumstances of near misses. Lessons from analysis are put into use on the Forest.	Partial Participation
6.	Procedure Approach	A supervisor requires a given class of employees to list the behaviors necessary to complete a task safely. The list is developed into a checklist and becomes a standard. The supervisor inspects his or her employees and determines if the standard is being followed.	Partial to Total Participation (Depending on each unit's use of the practice.)

* Participation through representation means that the workforce would be represented by designated committee members.
Total participation means that all members of the workforce would have the opportunity to provide input in a given year.
Selected participation means that specified members of the workforce would participate in any given year.
Partial participation means that a given segment of the workforce would be provided with an opportunity for involvement.

Recommendations

1. **Additional committee work is necessary on each of these alternatives.**

2. **At this time it seems that the use of a combination of these practices would be more appropriate than exclusion of any one of these approaches.**

SAFETY INCENTIVES AND AWARDS

An important consideration of the Dixie Safety and Health Committee was to assess various means of motivating employees to be safety conscious and to get involved in the safety program. The committee concluded that a Safety Incentives program could be a primary motivational element of the total safety program. In considering the existing incentives program, the Committee came to the conclusion that in order for a incentive to be a significant motivational factor for most employees, it would have to be of substantial value. It is recognized that value judgements differ among individuals and perhaps between different classes of employees. For instance, a certificate of accomplishment may be a much more effective incentive to a program manager than to a seasonal employee. Monetary incentives, if they are substantial and closely tied to meaningful measurements of safety performance, can be very effective motivational factors for a broad range of employees.

An incentives program can be organized in a variety of ways or with a variety of emphasis. The incentive can be restricted to a few individuals and be given as an award for exemplary performance or behavior. Incentives can also be broadly based and distributed to all employees as a measurement of individual or Forest-wide program performance. The committee feels that both emphasis have merit and could be implemented concurrently. However, adoption of a broadly based incentives program provides that most exciting possibilities for an effective, across the board, motivational tool. Such a program could be particularly effective means of providing seasonal employees with a sense of "ownership" in the safety program. **The Committee strongly recommends that the Forest adopt a Forest-wide incentive program as an integral part of the Safety Program. The committee also recommends that the incentive program be supported as a budget item at the Supervisor's Office level.** If the safety incentive program is to work, there must be money to support it. Otherwise it may become to easy to say we can't afford it this year for reasons totally unrelated to safety costs. Either the money or an accounting system to track a pre-defined safety money pool should be allocated and implemented at the outset of the year.

Alternative Incentive Programs

Two principal methods for dispensing incentive awards are offered. The first method would be one where a pre-defined pool of funds is set aside at the beginning of the year against which safety related costs are charged. This pool would pay for such items as OWCP costs and property damage repair but preferably not safety program management costs. Any positive balance of funds left in the pool at the end of the accounting period would then be distributed via an incentive to all eligible employees. The value of the incentive could be the same for each employee or be adjusted by a pre-determined formula to account for such factors as a) total hours worked; b) safety hazard rating for job or c) safety record of individual for the year. Some advantages of this method are that it provides a positive, equitable incentive to all employees an element of "peer pressure" or group consciousness of safety concerns since the safety behavior of a colleague can effect the value of the incentive for his co-workers. This situation can stimulate the development of positive "group norms" of safety behavior enforced by members of a working team even in the absence of effective safety motivation by supervisors. It provides a mechanism by which all employees and particularly field going seasonal employees can receive positive, tangible benefits from safe behavior commensurate with the risks

they are subject to in their job. Disadvantages of this method include the need to set up a new accounting system to track safety related costs on a time frame which interfaces well with the appointments of most seasonal employees. The positive stimuli could conceivably be eliminated early in the season if a major accident depletes the annual pools of funds. There may be a need to set aside an amount to guarantee at least a minimal incentive for safe employees in case of such as early depletion. This system adapts easily to monetary or leave incentives but is more difficult to implement with personal item incentives. It probably would not allow for "high value" incentives such as used WCF vehicles, etc. Since it would key into an annual pool of funds. Carry over provisions would be difficult to implement.

A second method for dispensing incentive awards could be a point accumulation system which would function on a multi-year basis. Under this system each employee would accumulate points over the course of his appointment which could be applied at specified times towards incentives of varying value. Points could be accumulated for a variety of factors such as hours of accident free work performed in a year, perhaps adjusted by a job hazards reported, number of near misses reported, etc. Individual safety awards could be given in points instead of dollars or items. This type of system has the advantage of being amenable to use with personal items instead of money or leave time. Individuals with multi-year appointments could decide to accumulate points over more than a single year for higher value incentives such as a used WCF vehicle. The more subjective distribution of points for performance appraisals or safety awards would not cause resentment or controversy among participants since any disbursement would not effect a pool available for the other participants. Such a system can be used to stimulate interest in positive participation oriented aspects of the safety program. It can be used to encourage individual initiatives. A disadvantage is that it may be difficult to budget for disbursements for incentives that can be "cashed in" over varying times periods. This system also could not be used to reflect the overall program performance in terms of saved costs and therefore would to include the element of program evaluation implicit in the first method.

Types of Awards and Incentives

The types of awards or incentives given to promote safety performance should keep in mind their motivational impact on different groups of employees. Time off with pay may be highly valued by full time employees but not desired by seasonal employees. Cash or savings bonds are incentives with obvious motivations impact for most employees. There are of course, institutional constraints involved in awarding either of these incentives on a wide scale basis. Either would not provide some memento to display for recognition of an accomplishment so they should be accompanied by some type of certificate. Personal items of varying value could be used as incentives but should be of a natural to appeal to a broad range of employees from different backgrounds, both male and female. Trivial awards such as pencils or coffee cups really have little impact as a motivational incentive for most employees. On the other hand more substantial awards such as belt buckles or jackets loose their value when they are awarded year after year and do not keep safety consciousness constantly at the forefront. A broad array of awards in such areas as camping equipment, clothing articles, transportation benefits could be considered. Personal items, where possible, should be customized to identify them as Forest Safety Awards. At the upper end of the spectrum, used WCF vehicles have been suggested as possibilities. High cost items such as these could only be awarded on a multi-year point accumulation system.

Incentive Budget

Obviously, an incentive program such as those described above will require a fairly substantial budget commitment at the outset. Included in Appendix C are estimates of current costs for safety and health related items. These figures can be used to assess the feasibility or projected size of an incentive program based on past experience. Alternatively, the Forest can structure an incentive program based on desired levels of spending relative to average expenditures for the Intermountain Region. Allowing each District to determine levels of expenditure for incentives would be a less desirable alternative.

Recommendations

In summary, the Dixie Safety and Health Committee recommends the following:

1. A Forest-wide incentive program should be implemented.

2. A specified account should be set aside for the purpose of funding awards and incentives. This budget should be managed at the Supervisor's Office.

3. The Committee is uncertain as to which of the two incentive formulas discussed in this report would work best. The Committee recommends that both systems be studied in more detail by another Committee. An important charge of this committee should be to investigate the institutional constraints associated with each method as well as determining the mechanisms needed to implement such a program. Recommendations on the best type of awards need to be deferred until the outcome of this evaluation.

PERFORMANCE EVALUATION

Safety performance has a positive side and a negative side. The bright side of the performance ledger includes prevention, preparedness, safe conditions, wellness and physical fitness, safe behavior, employee participation, and relies on incentives to stimulate improved performance. The dark side of this ledger included accident numbers, frequency of accidents, accident-free years, severity of accidents and investigations designed to assess blame and prescribe disciplinary action as the means of improving performance. Unfortunately, and perhaps unknowingly, the emphasis in safety performance on the Dixie National Forest has been more closely aligned with the negative side of safety performance.

As pointed out in the Delta Team report many employees perceive the current safety rating system as negative and unproductive. Most of the employees contacted on the Dixie feel that this lack of effectiveness is due in part to the tendency to count accidents or accident-related costs, ignoring the true safety consciousness of an employee.

This reliance on accident counting fails to recognize the random element in accident frequency and an individual employees control involved in accident occurrences. The assumption is that if no accidents occur then everyone must be a safe employee. In reality a poor safety employee could achieve as good a rating as an employee who is very safety oriented. Conversely, one unpreventable accident could change this rating for an employee who is performing at satisfactory levels.

Another problem area with the current system is the rating criteria for both supervisory and nonsupervisory employees is the same, which results in many individuals receiving a satisfactory rating with little or no effort on their part. The system also rewards employees for not reporting accidents and worse yet, near misses, thus precluding any corrective actions or hazard reduction measures.

A performance evaluation system based on negative factors, such as occurence of accidents, does not direct employee attention toward a desired future goal or condition but concentrates attention on existing problems. It uses primarily negative feedback to achieve its desired result of problem avoidance. An employee has little reason to feel any ownership in the goal or to be innovative in approaching the program since positive or exemplary performance is not clearly defined. Negatively structured performance standards simply do not take into account that the "Carrot" can be as strong or stronger a motivating factor than the "Stick" when properly applied. On the other hand, a positive approach generally balances the needs of the organization with the needs of its people. It uses measures that are within the employee's control. It uses units that are goal oriented and properly matched with a given class of worker. A positive approach motivates employees to greater accomplishments by being sensitive to the employee's current needs and by considering quality of worklife issues.

It seems that the challenge of safety performance evaluation is not only to use positive measures but to make the proper match. That is, the proper match in terms of linking the proper measurement with the appropriate person and job. This is because the level of responsibility changes as one reviews jobs at different levels of the organization. With this in mind the Dixie Safety and Health Committee has split measures into three broad groups i.e., (1) those which fit the job requirements for non-supervisory personnel, (2) those for supervisory employees and (3) those for

managers. Measures have been further separated into different aspects of the safety program. Each measure is programmatic, meaning that it is closely linked with an aspect of the safety program. These measures dovetail with an enlightened approach to Human Resource management advocated in the Delta Team report. Moreover, these may be viewed as alternatives to the accident-free year or accident counting approach to safety measurement.

Some measures have wide application for a broad cross section of the Forest's workforce while others appear to be limited somewhat. Generally, those listed for individual employees can be used for any employee. Those measures listed for managers and supervisors are those which should be paired with employees who work in these jobs. The following chart explains the ideas of the Dixie Safety and Health Committee.

CHART OF SAFETY MEASURES

Class of Employee	Aspect of Safety	Measure
Individual Employee or Non-Supervisory Personnel	Participation	1. Number of safety interactions provided. 2. Number of individual safety suggestions. 3. Number of other safety observations, e.g., news clippings, etc. 4. Development of safety requirements which match one's job. 5. Attending safety training. 6. Work on a Safety Committee.
	Prevention	1. Number of near misses reported. 2. Number of hazards reported in structural and behavioral arenas.
	Behavior	1. Use of safety equipment. 2. Change from unsafe to safe behavior.
	Feedback	1. Number of occurrences where feedback to one's supervisor concerning safety equipment needs is provided. 2. Number of contacts with other employees concerning safety problems. 3. Response to questionnaire.
Supervisory Personnel	Prevention	(The measure of success for supervisors may include those listed for non-supervisory employees and may include those listed below as well.) 1. Number of hazards or near misses recognized. (Sum total of own and employees under his/her supervision.)

CHART OF SAFETY MEASURES

Class of Employee	Aspect of Safety	Measure
		2. Number of Action Plans developed to correct hazards. 3. Number of Action Plans approved. 4. Number of hazards corrected. 5. Percent of Safety inspections conducted based established criteria.
	Supervision	1. Use of safety behavior checklist such as the one contained in Appendix B. 2. Number of cases where unsafe behavior is recognized. 3. Number of Action Plans prepared to correct unsafe behavior. 4. Number of Behavior Action Plans approved. 5. Number of cases where unsafe behaviors are corrected. 6. Safety equipment provided for each project. 7. Safety equipment meets requirements outlined in hazard analysis and in good repair. 8. Number of safety meetings or tailgate session conducted based on established criteria. Criteria to focus on timing and job relevance. 9. Training recommended for employees. That is training that motivates, improves self awareness, or upgrades skills.

CHART OF SAFETY MEASURES

Class of Employee	Aspect of Safety	Measure
		10. Number of employees certified to handle emergency situations under his or her supervision.
Managers	Program Management	The measure of success for managers may include those listed for non-supervisory and supervisory employees and may also correspond with those measures in the Program Evaluation Section Additional criteria could include: 1. Amount and quality of safety supervision given first-line supervisors, rate of employee attendance at training 2. Rate of participation of employees in safety suggestions, near miss reports safety surveys, etc. 3. Pro-active measures taken to improve visitor safety, safety preparedness, respond employee suggestions. 4. Quality and completeness of safety and health accounting data provided to SO program manager. 5. Innovation in implementing Forest Safety Program. 6. Improvement in safety attitudes as shown by survey results or inspections.

Rating Alternatives

This part of the performance evaluation section addresses the question of whether to rate an employee using safety criteria. More specific, who in the organization should be rated for safety. The Dixie Safety Committee came up with the following alternatives.

Alternative A: Don't use safety criteria in performance ratings.

Definition: Measures other than safety criteria will be used to assess an employees performance.

Advantages: Minimize stress and strain for or between employees. Controversy kept to a minimum.

Disadvantages: No basis for improving safety performance due to lack of feedback and documentation from supervisor to subordinant. Although the incentive program provides some motivation to improve safety performance, the absence of a rating system precludes a second mechanism for motivation. Accidents and loss of organizational resource are less likely to decline at a rapid rate.

Alternative B: Rate all employees using the measures prescribed above.

Definition: All employees rated on established criteria for safety behavior. Employee's supervisor or a designated safety monitor makes spot checks of employees in work situations, observing unsafe behaviors, attitudes, or conditions. Employees can also be rated on participation in pro-active participation elements of a safety program such as hazard identification, or elimination; participation in safety training, "near miss" reporting or analysis, revolving safety committees; use of safety equipment or clothing; etc.

Advantages: All employees rated for safety emphasizing management priorities. Measures pro-active as well as negative behaviors.

Disadvantages: Can lead to discrepancies in ratings due to subjective judgement needed by many different supervisors. Requires considerable effort on part of supervisor to acquire information on behavior. Has potential to evolve into `red tape' exercise for many supervisors.

Alternative C: Only use safety ratings for supervisory personnel.

Definition: All supervisory personnel given ratings on safety emphasize in managing staff based on judgement of immediate supervisors supplemented by mandatory questionnaires filled out by supervised employees. Questionnaires address the quality and quantity of safety information, training, hazard recognition and elimination on the part of supervisor.

Advantages: Emphasis safety supervisory skills in communication, training and safety awareness. Emphasizes supervisory role in program implementation. Emphasizes pro-active positive measures instead of accident numbers. Promotes active involvement of employees in safety program evaluation.

Disadvantages: Singles out one element of safety program for performance evaluation. Can lead to obvious problems in employee/supervisor relations. Relies upon other motivational factors for non-supervisory personnel.

Alternative D: Only use safety ratings for managerial personnel.

Definition: Performance ratings limited to employees with safety program management responsibilities (primarily rangers and staff). Managers rated on strength, quality or improvements in safety program.

Advantages: Emphasizes program management skills and performance which is under the control of the person being rated similar to other rating factors. Emphasizes positive pro-active measures in safety program management instead of accident counting. Little tendency to evolve into `red tape' exercise.

Disadvantages: Relies on other motivational factors for employees other than program managers.

Recommendations

The Dixie Safety Committee recommends the adoption of criteria such as those specified in the Safety Measure chart as the means of assessing the performance of the Forest's employees.

The Safety Committee also recommends the adoption of alternative B: rate all employees using the measures prescribed in the Measure chart. Safety evaluation provides critical feedback concerning management's expectations. When used in combination with an incentive program, a more powerful force for change is available to supervisors and managers for correcting unwanted attitudes and behaviors. It also provides for greater reinforcement on an individual basis to maintain a positive health and safety program.

PROGRAM EVALUATION

The purpose of any attempt at program evaluation is to somehow show that a given program is working as intended. An important consideration with this in mind is whether or not the Dixie National Forest's safety program is accomplishing the goals which have been specified and to what degree. Three other considerations are how to measure goal accomplishment, what data is necessary, and what methods of evaluation are available for handling the data.

Attempts at evaluating Human Resource programs such as safety have met with varying degrees of success. As with any program which involves people, the task of evaluation is very complex because of the number of test implications and variables which influence the evaluation process. It would be to the Forest's advantage to show that the safety situation is being maintained at a high standard of excellence or improving with time. With this in mind, it seems that our challenge is to amass enough evidence and the right kinds of evidence to make the claim that the Dixie has a good safety program convincing.

Modern attempts have approached the problem from basically two viewpoints. One is from a historical perspective. This requires a determination as to whether the program is improving, maintaining a specified level or declining with respect to past accomplishments.

Another approach is to break a complex program down into its various components and rely on the assessment of those who are closely involved as to how well each is meeting their needs. This brings to light a concern of the Dixie Safety and Health Committee. Perhaps more pressing than defining a new direction in program evaluation is the concern of how much evaluation is necessary. That is, how much evidence is sufficient to show that the goals of the safety program are being met. This is an important consideration because the evaluation process could potentially go on forever and in the process consume many of the organization's resources which may be better placed elsewhere.

The remainder of this section addresses the problem of evaluation in more detail. It draws upon some of the ideas presented in the incentive, participation and administrative structure sections. Information concerning alternative measures of safety will be presented. Appropriate ways to handle data concerned with these measures will be outlined and the Dixie Safety and Health Committee's recommendations will complete this section.

Measures

Before discussing program measurement, per se, two basic rules of program evaluation will be highlighted. These rules are important because human resource management is not an exact science and therefore, is not subject to those laws which govern exact sciences. By adhering to these rules during the evaluation process, we can be more sure of our claim concerning the status of the Dixie's safety program when the assessment is complete.

Rule 1. No data is completely reliable. Therefore, it is important to use more than one kind of data in the evaluation process.

Rule 2. No method of evaluation is perfect. Therefore, it is important to use more than one method when evaluating a human resources program.

Two groups of measures (A & B) were evaluated by the committee. These groups are separated into those that are long term measures and tend toward comprehensive evaluation and those which are short term and focus on more specific aspects of the safety program. Each group may be separated into more specific categories and measures are contained within each of these. The long term measures are results oriented and are useful in assessing an entire program; whereas, short term measures are helpful in assessing a small portion of the program. The short term measures have two advantages over the long term measures and that is these are generally more manageable and allow the evaluator to be more adept at pinpointing specific problems with the program. Advantages and disadvantages of each category are highlighted in the following chart.

GROUP A - LONG TERM MEASURES

Category	Definition	Measure	Advantage	Disadvantage
1. Accident Analysis	Basically the same approach to program evaluation that is currently used on the forest.	1. Number of accidents. 2. Accident frequencies.	1.A comprehensive measure.	1.Uses negative statistics. 2.A results oriented approach which stimulates suspicion and morale problems in the workforce. 3.System can be manipulated to indicate desired results.
2. Incentive Expenditure Analysis	An approach which determines the success of a program by focusing on the amount paid out on incentives over a years time.	1. Money.	1.A comprehensive measure. 2.Uses positive statistics. 3.Amount of incentive is greater if accident costs are lower.	1.A results oriented system. 2.May imply that money is more important than people. 3.Requires the commitment of organizational resources. 4.Requires the establishment and control of dispersive criteria to assure fairness and equity. This is somewhat dependent on set-up. 5.System can be manipulated to indicate desired results.

Category	Definition	Measure	Advantage	Disadvantage
3. Analysis of Savings Generated by the Safety Program	An approach where the success is determined by the amount of savings generated over a years time. Incentive budget less safety costs = saving	1. Money.	Same as those in category 2.	Same as those in category 2.
4. Near Miss Analysis	An approach where the success of the program is determined by following the trends of near misses and non-injurious accidents.	1. Number of near misses by category. 2. Number of hazards eliminated by category.	1.A comprehensive measure. 2.Uses positive statistics.	1.Time consuming. 2.Requires the establishment of reporting system. 3.Generates lots of information which in an effort to handle may reduce resources available for production on the ground. 4.System can be manipulated to indicate desired results.

GROUP B - SHORT TERM MEASURES

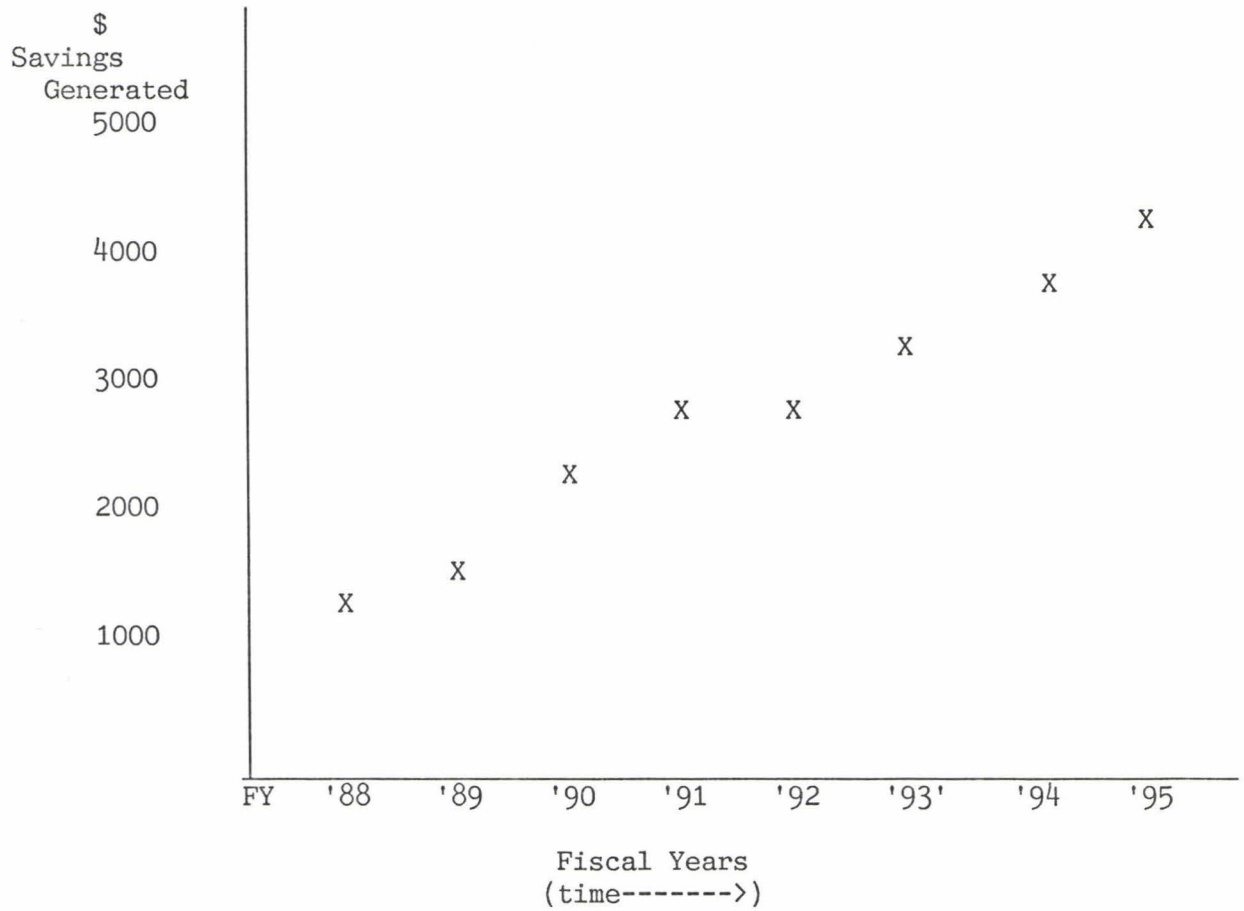
Category	Definition	Measure	Advantage	Disadvantage
1.Safety Communication	An approach which evaluates the safety communication network within an organization by following trends related to this aspect of the program.	1. Number of interactions. 2. Amount of time/occurrence. 3. Opinion poll rating the quality of safety communication.	1.More adept at isolating a specific problem.	1.Time consuming. 2.Requires the development and use of an appropriate reporting or information collection system such as a survey document. 3.Requires commitment of organization's resources which may reduce those available for work on the ground. 4.System can be manipulated to indicate desired results.
2.Accident Prevention	An approach which evaluates accident prevention efforts by following trends related to this aspect of the program	1. Number of hazards recognized. 2. Number of structural hazards corrected. 3. Number of cases correcting unsafe behavior. 4. Number of cases recognizing unsafe behavior. 5. Opinion poll rating availability of safety equipment or wear. 6. Opinion poll rating use of safety equipment or or wear.	Same as above.	Same as above.

Category	Definition	Measure	Advantage	Disadvantage
3.Safety Training	An approach which evaluates safety training efforts and follows trends related to this aspect of the program.	1. Number of participants per occurrence 2. Opinion poll rating how well training meets safety needs. 3. Opinion poll rating how extensive safety training is used at work.	Same as above.	Same as above.
4.Sick Leave Analysis	An approach where the success of a health program is determined by following trends created by use of sick leave.	1. Total sick leave used per year. 2. Sick leave used per FTE.	1.Focuses on health issues as it relates to use of sick leave.	1.Oriented toward health instead of safety. 2.Uses negative statistics. 3.Requires commitment of organizational resources.

Methods of Program Evaluation

Two methods were considered by the Forest Safety and Health Committee. It is worth mentioning that others are available. The committee's assessment of methods is limited to an interrupted time series and pretest/post test design because of their simplicity and straight forward nature. Moreover, these methods yield acceptable results. A diagram of both designs follows:

Time Series Design Example

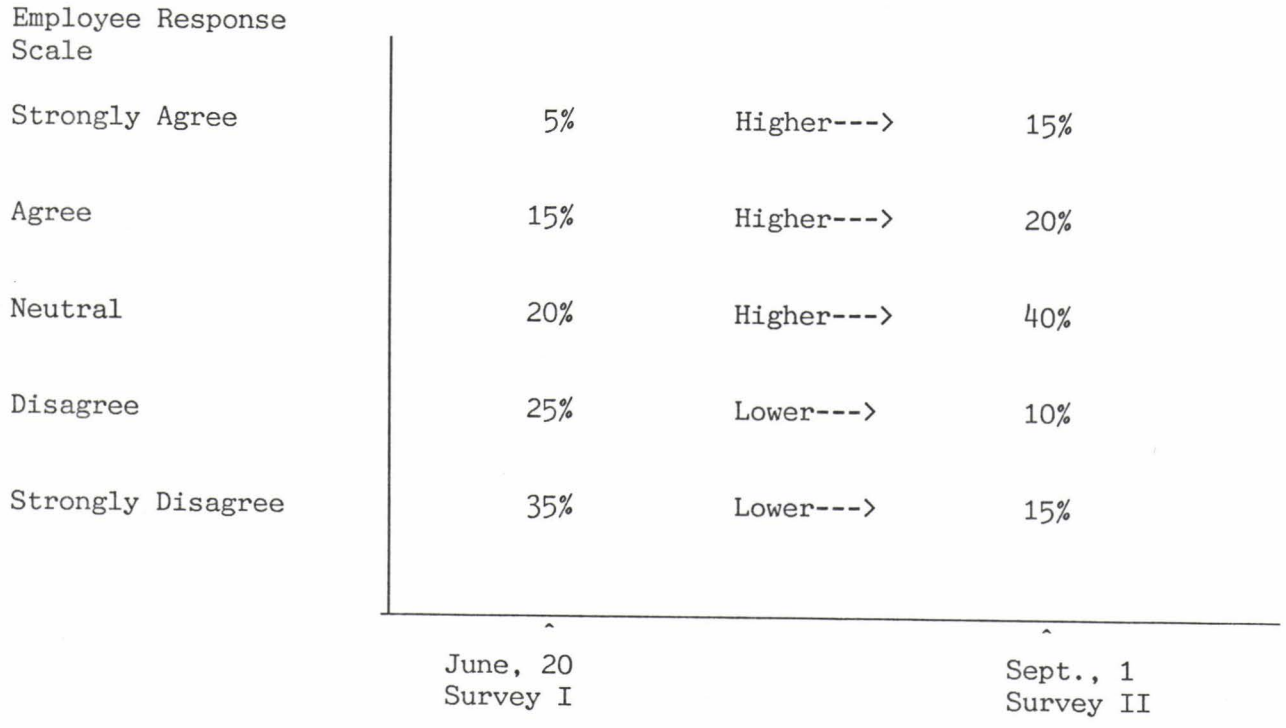


Interpretation: Savings generated approach measures money spent over time. This means that as accidents costs decline the amount of money "saved" increases. The points of reference are previous years. Also the slope of the line is very important. The evaluator must focus attention on the slope of the line. The evaluator considers inflation, yearly increases, and any other variable which may influence the slope of the line. If the slope is steep considering these variables then this may be viewed as an indication that the safety program is improving.

Pre-Test/Post-Test Design Example

This particular sample analyzes question 2d in Appendix A or "availability of adequate safety equipment".

Percentages computed from Questionnaire response. Percentage is the amount of the workforce that responded in the following categories on the dates specified.



Interpretation: Statistics similar to these indicate that at the beginning of the field season more than 1/2 of the workforce or 60 % (25% + 35%) thought that adequate safety equipment was not available. At the end of the field season, only 25% of the workforce thought safety equipment was not available. Also, percentages increased in the Strongly Agree through Neutral categories during the summer field season. These are indicators that this aspect of the safety program improved during the field season.

These designs can be strengthened by introducing a comparison group to each design. The comparison group needs to be identical, at least as identical as possible, as the test group. The advantage of a comparison group is that the performance of those involved in a program may be compared with the performance of others who are not involved. If the performance of those in the program increases or remains consistently higher than the non-participants, then this may be viewed as another indication that the program is working. This makes us more confident of our claim and this indicator can be added to other evidence we have accumulated which shows that safety is well managed on the Dixie.

Data

Some of the data for program evaluation is available through the regular reporting network. Provisions for collection of other data may be necessary since its availability is presently limited. A survey instrument has been prepared for this purpose. It may be argued that a survey such as the one contained in Appendix A is desirable because it is quick and easy. It conforms with the possibility of providing more information and, likely, better information because of the number of minds tapped in the collection process. Additionally, it has minimal impacts on other work priorities.

Recommendations

The Dixie Safety and Health Committee feels that there is no one best way of approaching the problem of program evaluation. Safety and health evaluation is simply too complex. A combination of approaches seems more appropriate. It seems that the Forest will continue with a certain amount of accident analysis. This is because the completion of a CA-1 or CA-2 requires a certain amount of analysis or evaluation.

The Committee's recommendation is to diversify evaluation. That is, to evaluate the program using several approaches and not just accident analysis. Considering the long term or comprehensive measures the Committee recommends the adoption of Savings Analysis and Near Miss Analysis. In the area of short term measures the committee recommends the evaluation of safety communication, accident prevention and safety training on a regular basis. At a minimum the committee feels that each of these should be evaluated once every three years, more often would be better. Both sets of measures need further development.

The committee also recommends the implementation of a formal accounting system to more accurately track savings generated by the safety program.

WELLNESS AND FITNESS

The forest has started a wellness and fitness program in the form of health risk analysis and health screening clinics. If participation in these programs can be used as an indicator of the interest on the forest in a wellness program, then it would seem to be high.

Future steps or programs could include a physical fitness program, seminars on diet and nutrition, life styles and substance abuse.

As brought out in the Delta Team Report these types of programs have a positive effect on the morale of employees. It also produces a cost savings over time and an increase in productivity.

Recommendations

Every interested employee should have the opportunity to participate in Wellness and Fitness program. From this committees viewpoint, the expansion of the program to include a greater variety of offerings would be beneficial to the Forest.

CONCLUSION

The work of this committee has provided its members with a greater appreciation for safety and its importance to the organization. The committee extends its thanks to the Forest Supervisor and other members of the management team for providing them with the opportunity of working on this project.

The committee concludes that the safety situation of the Dixie National Forest is not significantly different from other forests in the Region. There is opportunity to improve the safety program on the Dixie. Based on the outcome of further investigation , additional program development, and implementation; the Committee believes that the Dixie could easily move to the forefront and lead the Region in the Health and Safety effort.

Safety is a complex problem. Development of a quality safety program necessitates the consideration of a multitude of variables. Some improvement in the safety program is possible through continued efforts in the traditional safety areas such as inspections, new and improved hazard analysis, attention to procedures, reduction of hazards in the workplace. The committee feels that much improvement can be made by focusing on the human side of the organization.

One way of summarizing this work is to simply state the essentials of a good safety program in the view of this committee. First, safety should be given staff status at the forest level. That is, it should be included in a listing of staff responsibilities such administrative officer in charge of support services, human resources, and safety. Duties for such a staff person should include a generous dose of safety duties. A quality safety program needs to be the employee's program and their participation in the development and implementation of the programmatic details is essential. Safety excellence demands a share of the budget and provides quality incentives to reward employees for their pro-active safety contributions. Positive safety measures are used in performance evaluation. Caution is exercised when linking performance evaluation with the incentive part of the safety program. A good safety program provides for diversified program evaluation on a regular basis. Program evaluation keys on a variety of programmatic aspects such as safety communication, safety training, prevention, and group norms; and measures savings generated over time, and tracks near misses. Knowledge gained from evaluation is used to revise and upgrade the safety program. Finally, wellness and fitness is included as an integral part of the program.

This work now concludes with a re-listing of the committee's recommendations and a specification of parts of the program which require additional committee work.

Summary of Recommendations

1. Centralize program administration with a defined budget under the direction of a Forest Staff officer in the Supervisor's Office.

2. Assign a rotating committee comprising a broad cross-section of the forest employees to advise and assist the Staff Officer in safety management.

3. Develop mechanisms for employee participation i.e., rotating committee, survey, training, management by wandering around, near miss analysis, and procedure practices to enhance workforce involvement in the safety program.

4. Adopt a Forest-Wide incentive program.

5. Use the positive pro-active criteria specified in the report for performance evaluation purposes. Include safety measures in the performance evaluation of all employees.

6. Develop a formal accounting system which tracks savings generated by the safety program.

7. Use savings analysis and near miss analysis to evaluate the long-term implications of the safety program.

8. Evaluate the safety communication, accident prevention, and safety training aspects of the safety program at least once every three years. Evaluation of these yearly would be more desirable.

9. Continue with and expand the wellness and fitness program. Include more variety in its offerings.

Future Committee Assignments

Based on this work it seems that six more committee assignments are necessary. A list of these assignments and their charges follows:

1. Incentive Program Committee

The charge of this committee is to develop the two incentive alternatives described in the report and investigate the merits of each. An investigation of the institutional constraints of giving cash incentives and items of substantial value such as a WCF vehicles should be conducted. The implications and management constraints of a multiyear incentive program needs to be the focus of their attention also. Ways and means of assuring fairness and equity in managing the incentive program should also be a consideration of this committee.

2. Accounting Systems Committee

The charge of this committee is to review existing reporting systems for safety statistics, program costs and expenditures, and to recommend improvements and changes to these systems. An examination of the institutional constraints of carrying out a coordinated safety program supported by a reporting system which covers different periods and culminates with different agencies is required. A determination of the minimal reporting requirement needs to be formulated in support of the administration, incentives and program evaluation parts of the safety program.

3. Performance Evaluation Committee

The charge of this committee is to investigate the implications of use of the criteria listed in the chart of safety measures. A determination as to which criteria is best suited for the management of the safety program and how to incorporate these measures into the performance evaluation of the Forest's workforce is needed. Preparation of specific examples would be meaningful for management purposes.

4. Program Evaluation Committee

The charge of this committee is to work out the details of accomplishing program evaluation. Further development of the necessary data base, measures and methods is required to accurately display test implications. A determination of the minimal program evaluation requirements is needed. A listing of those variables which need to be ruled out as other possible explanations is also needed. Refinements in how to proceed should be included in the work of this committee.

5. Participation Committee

The charge of this committee is to refine the participatory mechanisms contained in the report to stimulate wide-spread ownership in the Forest's safety program. More detailed suggestions of how to apply these mechanisms are essential. A determination of the ways and means of rotating committee assignments, workforce surveys, safety training, and near miss and hazard identification practices will meet individual safety needs should be expanded.

6. Wellness and Fitness Committee

The charge of this committee is to investigate the topic of wellness and fitness with the needs of the Districts in mind. This committee needs to develop, strengthen and expand wellness and fitness opportunities across the Forest.

APPENDIX A

SAFETY PROGRAM SURVEY I AND II

Purpose: Your responses to the following questions will provide important input to help the Forest improve its Safety Program.

Instructions: Please respond to each question by placing an "x" in the blank which best describes your opinion.

1. Safety Communication

Definition: Safety communication may be defined as either written or oral correspondence in which any aspect of safety is a topic of discussion.

a. How often does your supervisor discuss safety with you?

_____	_____	_____	_____	_____
Once/Day	Once/Week	Once/Month	Once/Project	Once/Summer

b. On each occasion, how much time does your Supervisor spend discussing safety with you?

_____	_____	_____	_____ _____
1 Hour	1/2 Hour	15 minutes	less than 15 minutes

Definition: Quality safety communication may be defined as discussion dealing with any aspect of safety that is task relevant, emphasizes accident prevention or identifies unsafe behavior or conditions.

c. How would you rate the quality of your Supervisor's safety communication?

_____	____	____	____
Very Good	Good	Fair	Poor

2. Accident Prevention

Definition: Accident prevention may be defined as action directed toward calling attention to and correcting unsafe conditions, emphasizes safe behavior, provides adequate safety equipment and calls attention to management related causes of non-injurious accidents or near misses.

a. I am aware or have recognized unsafe conditions on my unit.

Strongly Agree___ Agree___ Neutral___ Disagree___ Strongly Disagree___

b. Emphasis is placed on making employees aware of hazards and/or correcting unsafe conditions on my unit.

Strongly Agree___ Agree___ Neutral___ Disagree___ Strongly Disagree___

c. Emphasis is placed on identifying and correcting unsafe behavior on my unit.

Strongly Agree___ Agree___ Neutral___ Disagree___ Strongly Disagree___

d. Adequate safety equipment is available for each and every assignment on my unit.

Strongly Agree___ Agree___ Neutral___ Disagree___ Strongly Disagree___

e. Cite some examples of Accident-prevention efforts on your unit.
E.G.'s Replaced extension cord which was an electrical hazard, received OJT on how to safety perform stock tank construction, or observed demonstration on how to use a fire shelter.

f. Cite some examples of near-misses you may have encountered. Also identify cause for near miss.

NEAR-MISS	CAUSE(S)
E.G.'s Hit a Deer on SR 19	Evening driving through Deer Winter Range.
Stumble and Fall on High Trail	Improper footwear on Rocky uneven Terrain.

3. Safety Training

Definition: Safety training, may be defined as either formal or informal training in which the topic of discussion is any aspect of safety.

a. I was provided the opportunity to participate in safety training on my unit.

Strongly Agree___ Agree___ Neutral___ Disagree___ Strongly Disagree___

b. The safety training I participated in satisfied my personal safety needs in the workplace.

Strongly Agree___ Agree___ Neutral___ Disagree___ Strongly Disagree___

c. I used the safety training provided me in the performance of my duties.

Strongly Agree___ Agree___ Neutral___ Disagree___ Strongly Disagree___

d. List the training that you attended or was provided.

4. Indicate your employment status.

GS _____ WG_____ HR Enrollment _____ Volunteer_____
level level Type Type

5. Indicate your age. _____

6. Indicate your sex. _____

7. Indicate your Unit_____(e.g. Pine Valley RD)

APPENDIX B

BEHAVIOR MODIFICATION CHECKLIST FOR SUPERVISORS, DIXIE NF

Instructions: Listed below are several behavior patterns which have important safety implications within any organization. Such behavior can lead to unsafe acts and conditions within the workplace and at home. A supervisor can improve the safety situations in an organization by identifying employees with these behavior patterns and taking positive steps to modify the appropriate behavior. Scrutinize your employee's behavior and determine if their behavior falls within any of the following categories. If so, take the steps specified in the modification column. Modification efforts will result in improved safety performance.

UNSAFE BEHAVIOR	DEFINITION	MODIFICATION STRATEGY
1. Sloppy Worker	This type is a poor housekeeper. Equipment and materials are left in places and in conditions which pose a variety of safety hazards. Poor organization of the workplace may also pose hazards.	1. In Private, a. Talk with employee b. Explain problem to employee. c. Teach employee appro-private practices and procedures. d. Constantly followup. 2. Training and constant drilling encourages this person to replace bad habits with good ones.
2. Strong Employee	This type is as physical as a bull and capable of doing two jobs at twice the speed. This type is prone to accidents because of inability to ask for help.	1. Give this employee the attention and praise that is necessary to fill his or her need requirement. 2. Guide this person in not "over doing it". 3. Guide this person in being a team player.
3. Show-Off and Loud-mouth Employee	This type causes safety problems because he or she show-off with actions and is a loud-mouth with words. Underneath this person is merely covering up a strong sense of in-feriority and inade-quacy.	1. Give this person some "at-a-boys", "at a girls" or pats on the back. 2. Give this person the opportunity to become the kind of person she or he would like to become.

4. When the Mind Wanders Employee	This type has accidents because she or he in not attentive. This type does not give his or her work the attention it requires.	1. A job change is in order for this person because this person is difficult to manage. 2. Look for a job that requires this employee to keep up with a group. OR A job which requires simple repetitive tasks. That is, tasks that form a good habitual pattern.
5. Practical Joker Employee	This type is popular among other employees because he or she helps break the monotony of work. Through practical jokes this employee stimulates horseplay and and at times creates hazards for other employees. Usually this person is unaware of harm that he or she might cause.	1. Assign this person responsibilities to keep others safe. 2. Also, assign this person important duties. This is important from the viewpoint of the work group's task.

APPENDIX C

SAFETY AND HEALTH RELATED COSTS AND EXPENDITURES
DIXIE NATIONAL FOREST

There is no centralized accounting system available for safety and health related costs and expenditures either at the Regional or Forest level. Therefore it has been difficult to assess just how much of the Forest's budget is related to this concern. Some of the associated costs are available from existing inventories. Others need to be estimated. The Dixie Safety and Health Committee had attempted to compile these costs in order to provide management a basis upon which to formulate future program budget allocations. This information is contained in Table 1 on the following page.

Note that OWCP costs have an accounting period of July 1 through June 30. This is out of sychronization with our vehicle repair cost and program expenditure accounting period of October 1 through September 30 as well as our leave accounting period which is the Calender Year. Also, some OWCP medical costs can now be paid out of imprest funds. These expenditures are not tracked by the Regional accounting system and there is no Forestwide accounting system in place at this time. OWCP costs can include a significant component of carryover costs generated by accidents which occurred in prior years. In 1986, this amounted to $1140 or 6% of the total OWCP costs of that accounting period. Medical costs incurred by Forest employees injured on project fires off the Forest are charged to the home Forest's OWCP account. This can be a significant expenditure over which the Forest has little control.

One safety related cost which could be a considerable expenditure is the settlement of claims by or against non-employees. There are at least two claims at this time in contention which might result in costs to the Forest. Accidents resulting in claims are not reported together with other accidents. No estimate is available for the average annual expenditure for these costs.

We also do not have an accounting system for lost time (sick leave) due to accidents. This safety related cost is included in the total sick leave costs reported under "Health Related Costs".

The following direct and indirect costs related to safety and employee health have been identified for the Dixie National Forest.

	Range of Costs	Average Annual Costs	Average Cost Per FTE
Discretionary Safety Program Management Expenditures (Estimated - FY87 only)			
Safety Planning		$5636*	$60*
Safety Meetings		$21449*	$229*
Safety Training		$11709*	$124*
Accident Reporting and Analysis		$5445*	$58*
Incentives/Safety Equipment		$7512*	$80*
S.O. Program Expenditures			
Total Discretionary Program Management Expenditures		$51751*	$552*
Non-discretionary Safety Related Costs			
OWCP (Workers Compensation) (Average of last four years, 1984-1987)	$3583 - $19435	$11721	$61
Vehicle Repair Costs Reportable/Non-Accountable (Average of previous nine years, 1978-1986)	$385 - $4230	$1519	$8
Vehicle Repair Costs Accountable (Average of last three years, 1985-1987)	$415 - $3500	$1622	$8
Cost of Lost Time Due to Accidents	Unavailable - Included in Total Sick Leave Costs		
Total Non-discretionary Safety Related Costs		$14862	$77
TOTAL SAFETY COSTS AND EXPENDITURES		$66613	$629

Health Related Costs

Discretionary Health Program Management Expenditures - - - (FY87 through 1/88)	$3351	$17
Total Sick Leave Costs (Non-discretionary Expenditure)- - - (Prorated based on first 24 pay periods CY87)	$53150	$275
TOTAL HEALTH RELATED COSTS AND EXPENDITURES - - - - -	$56501	$292

TOTAL DISCRETIONARY SAFETY AND HEALTH PROGRAM MANAGEMENT EXPENDITURES	$55102	$569
TOTAL NON-DISCRETIONARY SAFETY AND HEALTH RELATED COSTS -	$68012	$352
GRAND TOTAL OF HEALTH AND SAFETY RELATED COSTS - - - -	$123114	$921

* Based on 1986 work hours for Districts only. Other unit costs based on total Forest employment.